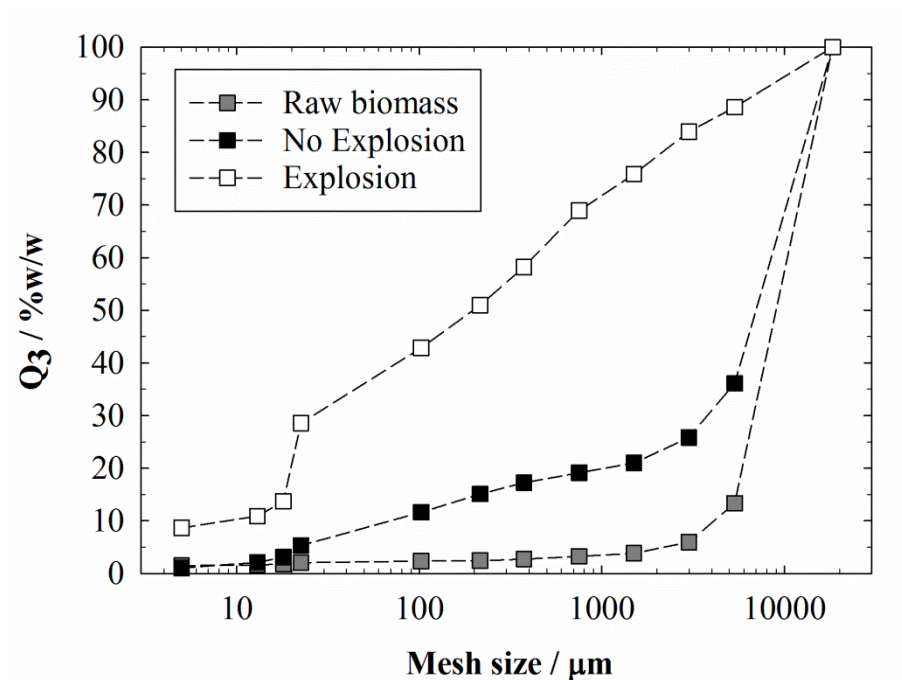


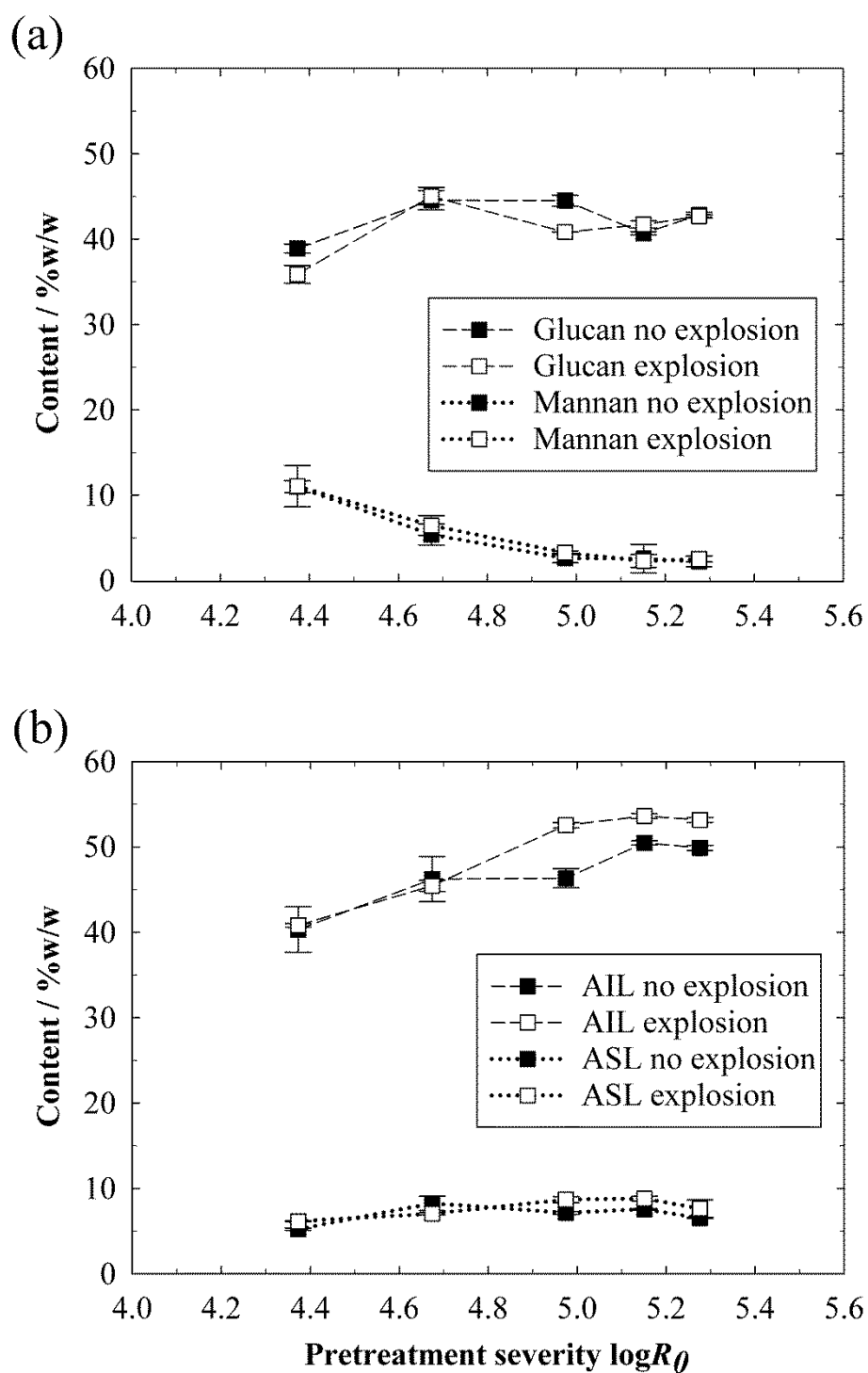
*Supporting information for:*

**Steam explosion pretreatment of softwood - the effect of the explosive decompression on enzymatic digestibility**

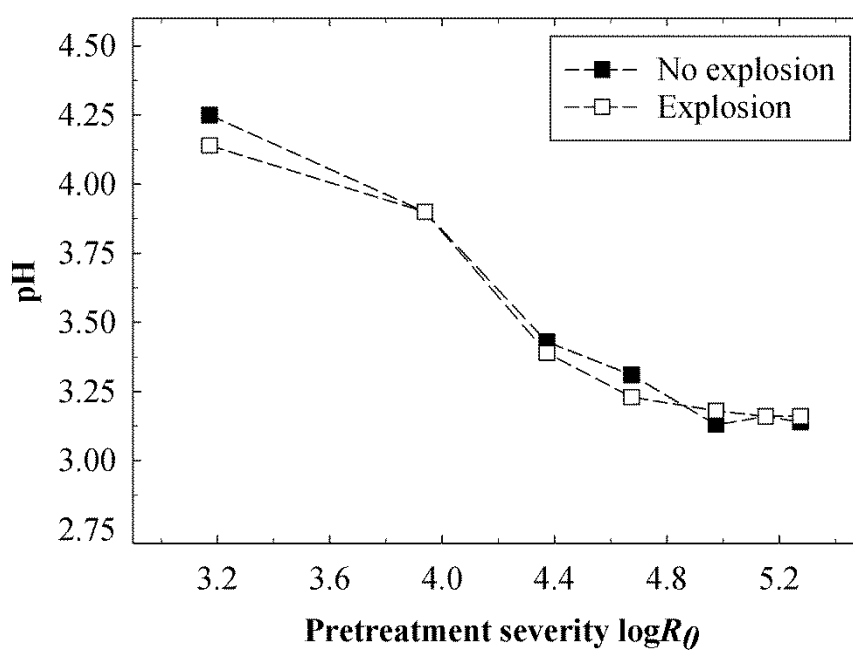
**Thomas Pielhop,\* Janick Amgarten, Philipp Rudolf von Rohr and Michael H. Studer\***



**Fig. S1** Cumulative particle-size distribution of raw biomass and biomass pretreated with and without explosion. Pretreatment conditions:  $\log R_0=4.7$  ( $T=235\text{ }^{\circ}\text{C}$ ,  $t=5\text{ min}$ ),  $\Delta p\text{ explosion}=30\text{ bar}$ .



**Fig. S2** Carbohydrate (a) and lignin (b) contents of spruce wood chips after steam pretreatments at different severities with and without explosion. AIL: acid insoluble lignin, ASL: acid soluble lignin. Pretreatment conditions:  $T=235\text{ }^{\circ}\text{C}$ ,  $t=2.5\text{--}20\text{ min}$ ,  $\Delta p\text{ explosion}=30\text{ bar}$ .



**Fig. S3** pH of pretreatment liquor after pretreatments at different severities with and without explosion. Pretreatment conditions: T=184 °C, t=5 min ( $\log R_0=3.2$ ); T=210 °C, t=5 min ( $\log R_0=3.9$ ); T=235 °C, t=2.5-20 min ( $\log R_0=4.4$ -5.3).